Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Parts 21 and 74 of the Commission's Rules With Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service	)	MM Docket No. 94-131
and	)	
	)	
Implementation of Section 309(j) of the Communications Act - Competitive Bidding	)	PP Docket No. 93-523

COMMENTS IN RESPONSE TO NOTICE OF PROPOSED RULEMAKING

THE WIRELESS CABLE ASSOCIATION INTERNATIONAL, INC.

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EXECUTIVE SUMMARY

Before permitting any applications proposing new MDS facilities to be filed, the Commission should adopt WCAI's long-standing proposal to expand the protected service area ("PSA") definition, affording operators protection commensurate with their actual service areas. Grant of WCAI's request is essential to protect existing systems, promote the development of new systems, deter greenmail, and pave the way for wireless cable's adoption of digital technology.

The Commission should lift the MDS filing freeze in a manner that protects existing operators and promotes the accumulation of the critical mass of channels necessary to succeed. The goal should not be merely to lift the freeze, it should be to get wireless cable systems on the air as quickly as possible. Regardless of what methodology the Commission adopts for licensing new MDS stations in general, limiting the first round of applications to those applicants best positioned to get systems in operation rapidly will achieve that goal.

To accomplish that objective, eligibility to participate in the first round of applications after the freeze is lifted should be limited to those who can achieve the critical mass of channels necessary to succeed. Applicants proposing to locate new MDS stations in an MSA or within fifteen miles of the boundary of a MSA should be required to demonstrate that the number of channels being applied for, coupled with the number of channels that applicant already has under its programming control at the proposed station site, equals at least twenty. Applicants proposing to locate new MDS stations more than fifteen miles beyond the boundary of the nearest MSA should be required to demonstrate that the number of channels

being applied for, coupled with the number of channels that applicant already has under its programming control at the proposed station site, equals at least twelve. In either case, the applicant should be required to demonstrate current access to at least four channels at the proposed site.

Because these eligibility rules are likely to minimize number of mutually exclusive applications filed during the first window, applicants should be required to file long form applications, supplemented by demonstrations of eligibility to participate in the first filing window. This will permit ready identification of the few mutually exclusive situations that may exist, and promote prompt processing of singleton applications. Oral outcry auctions can then be used to award licenses in the few cases were mutually exclusive applications are filed and not resolved prior to auction.

With respect to subsequent filing windows, it is premature for the Commission to suggest that licensing be based on geographic areas and that the PSA definition be modified so that the boundary of the PSA is co-terminus with the boundary of the geographic area. The practice of making service areas coterminous with political boundaries works well for PCS, cellular telephone, IVDS and other services that utilize a cellular distribution methodology. Because these services generally operate at low power levels with transmitting antennas mounted relatively close to ground level, networks can be designed that provide service throughout the FCC-designated service area, without significant leakage into adjacent service areas. The same may in the future prove true for wireless cable upon the conversion to digital technology. However, at present it is not.

Using current analog technology, a wireless cable system cannot today be designed to provide full coverage of a geographic area without leakage into adjacent service areas. Thus, the goal of universal service cited by the Commission to support the use of geographic boundaries cannot be achieved. The current site-specific system affords wireless cable system operators the flexibility they need to locate systems wherever necessary to maximize coverage, regardless of artificial geographic boundaries. Moreover, as the Commission has previously recognized, it is important that protected service areas for MDS and ITFS be co-terminus so that a wireless cable operator has adequate protection for all of its channels. The Commission should not make radical revision to MDS PSA without corresponding change to ITFS PSA.

Even after the first window, the Commission should employ the current site-specific system for licensing additional MDS stations. This approach neatly tailors the PSA of a station to its actual service capabilities, avoiding many of the problems associated with using geographic service areas. By using electronic application forms and filing, which WCAI supports, the Commission can eliminate much of the delay which has been associated with site-specific licensing.

The Commission must adopt rules to govern MDS competitive bidding that expedite the initiation of wireless cable service to the public. All MDS applicants should be required to submit a significant upfront payment in order to participate in an auction. Immediately following the auction, additional funds should be deposited with the Commission to bring the amount on deposit to 20% from winning bidders before formal closing of the auction. The

Commission should impose severe penalties against defaulting bidders. Oral outcry procedures should be used.

In crafting MDS auction rules, the Commission should adopt special rules that advance the participation of designated entities in the wireless cable business, while assuring that non-designated entities also have a fair opportunity to participate. Tax certificates provide a proven, effective mechanism for promoting participation by businesses owned by minorities and women. In addition, designated entities should be entitled to make installment payments on winning bids. Also, a 25% bidding credit would be an appropriate mechanism for promoting involvement in wireless cable by those designated entities that have access to the critical mass of channels necessary to develop a viable business. However, spectrum set-asides are inappropriate for services where, as with MDS, there is only spectrum for one service provider.

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COMMENTS IN RESPONSE TO
NOTICE OF PROPOSED RULEMAKING

The Wireless Cable Association International, Inc. ("WCAI"),[1/] by its attorneys and pursuant to Sections 1.415 and 1.419 of the Commission's Rules, hereby submits its initial comments in response to the *Notice of Proposed Rulemaking* ("*NPRM*") in these proceedings.[2/]

[1/]WCAI is the trade association of the wireless cable industry. Its members include the operators of virtually every wireless cable system in the United States. In addition, WCAI's membership includes Multipoint Distribution Service ("MDS") and Instructional Television Fixed Service ("ITFS") licensees that lease microwave transmission capacity to wireless cable operators, along with equipment manufacturers and program suppliers.

[2/]*Amendment of Parts 21 and 74 of the Commission's Rules With Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act - Competitive Bidding*, FCC 94-293, MM Docket No. 94-131 and PP Docket No. 93-253 (rel. Dec. 1, 1994)[hereinafter cited as "*NPRM*"].

I. INTRODUCTION.

With the *NPRM*, the Commission has solicited comment on proposed changes in the rules governing both the process of applying for authority to construct new MDS stations and the interference protection rights afforded MDS licensees. These proposals came in the aftermath of Congress' mandate that the Commission employ competitive bidding to award licenses for new stations in services meeting certain criteria[3/] and the Commission's subsequent determination that MDS meets those criteria.[4/] Several of those proposed changes -- particularly the "preferred filing approach" of licensing MDS spectrum for geographic service areas and making the wireless cable protected service area ("PSA") co-terminus with the geographic boundaries[5/] -- go beyond the minimum necessary to implement competitive bidding and, indeed, are revolutionary in nature.

While WCAI appreciates that adoption of the more radical proposals in the *NPRM* might expedite MDS application processing, WCAI fears that adoption could inadvertently undercut the stated goal of this proceeding -- "to facilitate development of the wireless cable industry"[6/] which in turn will "allow operators to enhance their service more rapidly,

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[3/] *See* 47 U.S.C. § 309(j).

[4/] *See Implementation of Section 309(j) of the Communications Act - Competitive Bidding,* 9 FCC Rcd 2348, 2359 (1994)[hereinafter cited as "*Auction Second Report and Order*"].

[5/] *See NPRM,* at ¶¶ 7-8.

[6/] *See id.*, at ¶ 2.

providing more competition to wired cable."[7/] Lest there be any confusion, WCAI wholeheartedly endorses the Commission's objective of promoting wireless cable as competition to cable. *However, expediting the processing of applications for new MDS stations is not necessarily tantamount to facilitating the development of wireless cable systems.*[8/]

While the Commission's preferred approach may work well for rapidly introducing to the public new services that employ cellularized network topologies operating on newly-allocated spectrum -- like Personal Communications Services ("PCS") and the Interactive Video and Data Service ("IVDS") -- the *NPRM* fails to acknowledge, much less address, that the situation here is fundamentally different.

First, today's analog wireless cable technology does not permit a cellularized approach. Thus, as will be discussed in more detail below, it simply is not possible for a wireless cable system to provide universal coverage within a Commission-specified geographic area without also emitting potentially interfering energy into adjacent areas. As WCAI has previously advised the Commission, once digital technology is widely available for use by wireless cable

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[7/] *Id.* at ¶ 1.

[8/] Under the terms of Section 307(j)(1), competitive bidding is only applicable to applications for initial station licenses. In the absence of any contrary indication in the *NPRM*, WCAI assumes that the Commission intends to continue accepting and processing MDS modification applications without regard to filing windows under the current same day filing rule embodied in Section 21.914.

systems, it may be appropriate to consider the use of geographic areas for licensing purposes.[9/] However, the Commission must recognize that it is still too early to predict with any degree of certainty when digital compression technology will be introduced into the wireless cable marketplace on any broad scale.[10/] Digital compression equipment is not currently available for use in wireless cable, and even the most optimistic estimates suggest that equipment will not be available in quantity until the first quarter of 1996 at the very earliest. The industry is currently developing data for use by the Commission in amending its rules to accommodate digital technology. It will be several months, however, before those results can be presented to the Commission and, if history is any guide, at least a year before final rules can be adopted. Compounding matters, the Commission has announced, and the staff has recently

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[9/]*See, e.g.* Comments of WCAI, PP Docket No. 93-523, at 11 (filed Nov. 10, 1993)[hereinafter cited as "WCAI Auction Comments"]; Letter from Paul J. Sinderbrand, Counsel to WCAI, to James R. Keegan, Chief, Domestic Facilities Division, at 7 (filed Aug. 30, 1993)[hereinafter cited as "Keegan Letter"].

[10/]While some wireless cable systems may launch digitally compressed systems or rapidly convert to compression once equipment becomes available, other wireless systems likely will take a different approach. Because initial costs of set-top decompression units are likely to be high, many wireless cable operators contemplate the development of so-called "hybrid" systems. Simply stated, operators hope to digitally compress a few ITFS channels, transmit all ITFS programming over those compressed channels, and outfit ITFS receive sites with decompression equipment, while utilizing the remaining channels in a non-compressed analog mode to transmit commercial programming to wireless cable subscribers. The net effect will be to free additional channels for commercial use without having to outfit the wireless cable subscriber base with expensive decompression equipment. Then, as the price of decompression equipment falls (as it inevitably will), many of these wireless cable operators will convert to full digital operation as and when local marketplace conditions demand. Before "hybrid" systems can be developed, however, the Commission will have to amend its rules regarding ITFS minimum usage requirements to accommodate the shifting of all ITFS programming to digitally compressed channels.

reinforced,[11/] that it intends to explore adoption of technical standards to govern digital video services generally; it is unclear whether this announcement will either slow equipment development until the Commission acts, or delay any rulemaking specifically focused on the MDS and ITFS technical rules.[12/]

Second, hundreds of MDS licenses have been issued under the current site-specific PSA rules, and hundreds of millions of dollars have been invested by wireless cable operators to develop systems that maximize population coverage consistent with those rules. While the *NPRM* states that auction winners will be required to protect incumbents, it is ominously silent as to the level of protection incumbents will have and the flexibility incumbents will be afforded to upgrade their facilities (particularly as digital technology is introduced).

Because of these differences, WCAI believes that, at this point in time, an evolutionary (rather than revolutionary) approach to modifying the Commission's MDS licensing rules will best serve the public interest in expanding the number of viable wireless cable systems operating in the United States.[13/] Specifically, the Commission should adopt rules governing

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[11/]Ellis, "FCC Digital Standards Warning Shocks Ops," *Multichannel News*, at 1 (Jan. 16, 1995).

[12/]*Implementation of Section 17 of the Cable Television Consumer Protection and Competition Act of 1992: Compatibility Between Cable Systems and Consumer Electronics Equipment*, 9 FCC Rcd 1981, 2005 (1994).

[13/]In its August 30, 1993 response to the issues raised by "MDS/MMDS Applications Filing Freeze," *Public Notice* (rel. July 28, 1993) concerning the Commission's current ban on the submission of applications for new MDS stations, WCAI expressed concern that a lifting of the freeze could hamper the wireless cable industry's transition to digital technology. *See* Keegan Letter, at 5-8. WCAI's concern was that if the Commission lifted the freeze and

(continued...)

MDS auctions that do not alter the current mechanism by which MDS licensees self-select their PSA through station location and design.

The Commission is to be applauded for its continuing efforts in Gen. Docket No. 90-54, PR Docket No. 92-80, MM Docket No. 93-24, the various proceedings implementing the Cable Television Consumer Protection and Competition Act of 1992 (the "1992 Cable Act"), and here to promote wireless cable as a viable competitor to the entrenched cable television monopoly. Those efforts have already borne substantial fruit. As the Commission recently recognized in its *First Report* to Congress on the status of competition in the market for the delivery of video programming, the wireless cable industry has experienced substantial growth over the past two years.[14/] Today, WCAI estimates that there are 170 systems in operation,

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[13/](...continued)
permitted MDS stations to be spaced as closely as possible consistent with the current 45 dB desired to undesired ("D/U") co-channel interference protection ratio, and if NTSC analog transmissions proved more vulnerable to co-channel interference from digital transmissions than from NTSC analog transmissions, it could prove difficult for any given system to convert to digital technology while a neighboring system remains analog. Since then, however, it has become more clear that so long as the 45 dB D/U ratio co-channel interference protection standard of Section 21.902 has been honored, it will be possible for a wireless cable system to convert to digital technology without risk of increased interference to an adjacent analog system. Thus, WCAI now believes it is appropriate to lift the moratorium on applications for new MDS stations, subject to its comments herein.

[14/]*See Implementation of Section 19 of the Cable Television Consumer Protection and Competition Act of 1992 -- Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, FCC 94-235, CS Docket No. 94-48, at ¶ 79 (rel. Sept. 28, 1994)[hereinafter cited as "*First Report to Congress*"]. The rapid growth of the wireless cable industry has been fueled by recent debt and equity financings that almost certainly would not have been made but for investor confidence engendered by the FCC's nurturing of wireless cable. Seven months ago, the *Wall Street Journal* took note of the more than $440 million worth of initial and secondary stock offerings by wireless cable operators in the (continued...)

serving approximately 700,000 homes. The publicly traded wireless cable companies nearly doubled their subscriber counts during the first nine months of 1994 and grew 149% during the twelve months ending September 30, 1994.[15/] Perhaps more importantly, experts are predicting that wireless cable will more than double its current subscriber base by the end of 1995 and experience continued dramatic growth throughout the decade.[16/]

The need for the Commission to revisit the rules governing the filing and processing of applications for new MDS stations cannot be denied. As the Commission is well aware, the emergence of wireless cable as a source of effective competition to franchised cable has been hampered in some regions of the county by the difficulties operators encounter in gaining access to the critical mass of stations licensed with a common design needed to

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[14/](...continued)
preceding year and concluded that "Wall Street loves wireless." Lee, "Wireless Cable-Television Sector Is on Acquisition Binge," *Wall St. J.* (June 8, 1994). Since then, among other financial transactions, American Telecasting, Inc. ("ATI") announced that it had closed on an unprecedented $100 million high-yield debt offering, Blackstone Capital Partners II Merchant Banking Fund invested $50,000,000 in People's Choice TV Corp., Jupiter Partners L.P. purchased $40,150,000 in convertible subordinated discount notes issues by Heartland Wireless, Inc., and Preferred Entertainment, Inc. ("Preferred") announced a commitment from two major banks that will expand its credit facility by as much as $20,000,000. *See* Gibbons, "Big Deal Inspires Ops At Wireless Show," *Multichannel News*, at 3 (June 27, 1994); Paul Kagan Associates, Inc., *Wireless Cable Investor*, at 1 (Nov. 30, 1994); Paul Kagan Associates, Inc., "Preferred Inks New Bank Line,", *Wireless Cable Investor New Analysis*, at 2 (Dec. 9, 1994).

[15/]Paul Kagan Associates, Inc., "Wireless Cable Stats: See How They Grow," *Wireless Cable Investor*, at 2 (Dec. 31, 1994). Just last week, ATI reported that it had added 12,800 new subscribers in the fourth quarter of 1994 and Preferred announced that it had doubled its subscriber base in Chicago to 22,000 and anticipated growing to over 40,000 subscribers in 1995.

[16/]Paul Kagan Associates, Inc., *Wireless Cable Investor*, at 2 (April 25, 1994).

provide a competitive service.[17] In part, those difficulties stem from the moratorium imposed on the filing of applications for new MDS stations.

Although conditional licenses for virtually all MDS channels in virtually all Metropolitan Statistical Areas ("MSAs") have been issued by the Commission at one time or another, in many markets one or more of those licenses has been forfeited due to the failure of the conditional licensee to respond to conditions or to construct the station in timely fashion. This has proven particularly problematic for developers of wireless cable systems that have accumulated access to many of the MDS and ITFS channels in a particular market, but are unable to apply for the few MDS channels laying fallow due to the freeze. The Commission has "acknowledged that wireless cable operators endeavoring to compete with wired cable systems, whose number of channels often exceeds 50, must have access to as many of the available 32 or 33 ITFS and MMDS channels as possible in a given market."[18] All across the nation, there are markets where operators have accumulated almost enough channel capacity to effectively compete with cable, save for the few MDS channels that are currently unavailable. With only 32 or 33 channels available, access to even three or four more MDS channels can be the difference between effective competition and no competition at all. Since resolution of the issues raised in the *NPRM* is a necessary precursor to the lifting

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[17] *See, e.g., NPRM, at ¶ 2; First Report to Congress*, at ¶ 85; *Amendment of Parts 21, 43, 74, 78, and 94 of the Commission Rules Pertaining to Rules Governing the Use of the Frequencies in the 2.1 and 2.5 GHz Bands*, 5 FCC Rcd 971 (1990).

[18] *Amendment of Part 74 of the Commission's Rules With Regard to the Instructional Television Fixed Service*, 9 FCC Rcd 3360, 3364 (1994).

of the moratorium on applications for new MDS stations, WCAI commends the Commission for opening this docket.

In considering the proposals advanced in the *NPRM*, the Commission's paramount concern should be to promote a continuing expansion of wireless cable as a competitor in the multichannel video programming distribution marketplace. As is recognized in the *NPRM*, "a competitive industry framework promotes lower prices for services, provides incentives for operators to improve those services and stimulates economic growth."[19/] In those markets where the wireless cable operator has cobbled together sufficient channel capacity, competition is already yielding those benefits. The record demonstrates beyond doubt that wireless cable is having a dramatic impact on cable's pricing[20/] and the quality of cable service.[21/] Moreover, the expansion of wireless cable in the United States and abroad has lead to thousands of new jobs with operators[22/] and wireless cable equipment manufacturers (most

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[19/] *NPRM*, at ¶ 2.

[20/] *See* Comments of WCAI, CS Docket 94-48, at 11 (filed June 29, 1994); Comments of Time Warner Cable, CS Docket No. 94-48, at 19-21 (filed June 29, 1994); Comments of Liberty Cable Co., CS Docket No. 94-48, at 9-11 (filed June 29, 1994). *See also* Mitchell, "Rising to the Competition," *Cable World*, at 9 (Jan. 16, 1995); Stump, "Toe to Toe with a Wireless Competitor," *Cable World*, at 28-29 (Oct. 5, 1992); "In the Trenches: Cable vs. Wireless, How Do Cable Operators Fight Back Against Price-cutting Competition?", at 13 (Aug. 24, 1992); Kerver, "Wireless Cable: Friend or Foe," *Cablevision*, at 20-24 (Oct. 5, 1992).

[21/] *See, e.g.*, Kerver, "Wireless Cable: Friend or Foe," *Cablevision,* at 20-24 (Oct. 5, 1992); Stump, "Toe to Toe with Wireless Competitor," *Cable World*, at 20-29 (Oct. 5, 1992). *See also First Report to Congress*, at ¶ 224.

[22/] *See* "Wireless Cable Co. PCTV Adds 2,100 New U.S. Jobs To Payroll," *Spectrum*, at 7 (Nov. 1994).

of which are located in the United States). If the Commission adopts rules here that encourage the accumulation of channel capacity for new systems while protecting incumbents, there is no reason why the same competitive benefits cannot be realized in markets across the country. If, however, the Commission adopts rules that are designed merely to expedite MDS application processing, or (worse yet) to maximize revenues, without giving due consideration to those pioneers that have already developed systems, it could jeopardize wireless' continued expansion.

II. Before Lifting The Moratorium On Applications For New MDS Stations, The Commission Must Assure That Previously Proposed Facilities Are Adequately Protected.

Before the Commission permits applications for new MDS stations to be filed under any of the alternative licensing systems proposed in the *NPRM*, it must address the greatest threat to the viability of the industry -- the inadequacy of the current interference protection rules. As WCAI explained in full in its still pending Petition for Partial Reconsideration in General Docket No. 90-54, "the current PSA definition is a ticking time-bomb set to explode in the wireless industry's future."[23/]

Perhaps counter-intuitively, the Commission's freeze on applications for new MDS facilities has played a very positive role in permitting wireless cable to blossom. As the Commission is well aware, all of the transmission facilities that a wireless cable system

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[23/]Petition of WCAI for Partial Reconsideration, Gen. Docket No. 90-54 at 2 (filed Dec. 13, 1991).

operator employs must be co-located and conform to a common technical design.[24/] The moratorium on applications for new stations initially was intended by the Commission to afford the breathing space necessary to design optimized, co-located facilities and to prepare and prosecute the inevitable modification applications that accompany the development of a wireless cable system.[25/] The freeze has performed well in this regard. Were it not for the moratorium on applications for new MDS stations, much of this essential co-location activity could have been precluded because co-channel stations could have been located so close together as to preclude either from modifying facilities without causing interference to the other.[26/]

The freeze also has a second positive effect -- it shields wireless cable subscribers from the inadequacy of the Commission's MDS interference protection rules. As WCAI has demonstrated on several prior occasions, the analog NTSC-based interference protection rules

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[24/] *Amendment of Parts 21, 43, 74, 78, and 94 of the Commission's Rules Governing Use of the Frequencies in the 2.1 and 2.5 GHz Bands Affecting: Private Operational-Fixed Microwave Service, Multichannel Multipoint Distribution Service, Multichannel Multipoint Distribution Service, Instructional Television Fixed Service, and Cable Television Relay Service*, 5 FCC Rcd 6472, 6474 (1990).

[25/] *See Amendment of Parts 2, 21, 74 and 94 of the Commission's Rules and Regulations in Regard to Frequency Allocation to the Instructional Television Fixed Service, the Multipoint Distribution Service, and the Private Operational Fixed Microwave Service*, 94 F.C.C.2d 1203, 1262-66 (1983).

[26/] Indeed, it is no coincidence that most markets where two MSAs abut each other (such as Stockton/Modesto, CA and Sarasota/Bradenton, FL) have yet to see operating wireless cable systems develop. Because the Commission had initially grouped stations for lottery selection based on MSA, rather than based on the potential for harmful electrical interference, it authorized co-channel facilities unduly close together in these areas, making system development more difficult.

codified at Section 21.902 fail to adequately protect MDS stations from the harmful interference that can be caused when facilities are spaced too closely together.[27/] Under the Commission's rules, an applicant for a new MDS license is obligated to demonstrate that its proposed facility will not cause worse than a 45 dB D/U signal ratio within the protected service area ("PSA") of each previously proposed co-channel station[28/] and a 0 dB D/U signal

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[27/] *See, e.g.*, Comments of Wireless Cable Ass'n, Gen. Docket No. 90-54, at 45-52 (filed May 7, 1990)[hereinafter cited as "WCAI Gen. Docket No. 90-54 Comments"]; Petition of Wireless Cable Ass'n, Gen. Docket No. 90-54, at 2-7 (filed Dec. 3, 1990)[hereinafter cited as "WCAI Petition for Reconsideration"]; WCAI Petition for Partial Reconsideration, Gen. Docket No. 90-54 (filed Dec. 13, 1991)[hereinafter cited as "WCAI Petition for Partial Reconsideration"]; Comments of Wireless Cable Ass'n Int'l, PR Docket No. 92-80, at 35-43 (filed June 29, 1992)[hereinafter cited as "WCAI PR Docket No. 92-80 Comments"]; Keegan Letter at 8-15, WCAI Comments in Response to Order and Further Notice of Proposed Rulemaking, MM Docket 93-24, at 9-17 (filed Aug. 29, 1994) [hereafter cited as "WCAI ITFS Filing Window Comments"].

[28/] *See* 47 C.F.R. §§ 21.902(b)(3), (c). In early-filed comments, some have urged the Commission to reduce the 45 dB co-channel standard where frequency offset is employed. *See e.g.* Comments of Hammett & Edison, Inc., MM Docket No. 94-131, at 2 (filed Jan. 9, 1995); Comments of the Richard L. Vega Group, MM Docket No. 94-131, at 10 (filed Jan. 9, 1995); Comments of Marshall Communications, Inc., MM Docket No. 94-131, at 4 (filed Jan. 9, 1995). WCAI vigorously opposes that proposal. Not only is it beyond the scope of this proceeding, it is bad public policy. As WCAI demonstrated in its reply comments in MM Docket No. 93-24, permitting stations to be located closer together than is permitted under the 45 dB D/U standard could frustrate the ability of the wireless cable industry to embrace digital technology. Although the frequency offset technique can somewhat diminish perceived interference between two analog NTSC signals, it is of no utility in the digital environment. Assume, for example, two analog NTSC wireless cable systems that are closely-spaced, but can just barely co-exist without interference today due to frequency offset. In all likelihood, neither of those systems would be able to convert to digital technology without causing harmful electrical interference to the other unless both convert to digital technology simultaneously. *See* Reply Comments of WCAI in Response to Order and Further Notice of Proposed Rulemaking, MM Docket No. 93-24, at 3-9 (filed Sept. 28, 1994)

ratio within the PSA of each previously proposed adjacent channel station.[29/] Those D/U ratios, however, are not the problem in today's analog world. Rather, the problem is that the PSA itself is defined in such a limited way that a newcomer is permitted to cause harmful electrical interference within large areas actually being served by a wireless cable operator. Fortunately, the freeze has consistently precluded the filing of applications for new MDS stations located too close to previously proposed stations. As a result, the freeze has permitted each wireless cable operator to provide interference-free service to the maximum number of subscribers, enhancing the ability of operators to attract financing.[30/] And, perhaps more importantly, it has led to stations being spaced in a manner that maximizes the number of subscribers that can be served by wireless cable.

In considering rules to govern the MDS in a post-freeze environment, the Commission must assure that the incumbents are adequately protected from harmful electrical interference caused by newcomers. There is a substantial risk that should the Commission lift the freeze without providing existing MDS facilities an appropriate PSA, applications will be submitted

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[29/] *See* 47 C.F.R. § 21.902(b)(4), (c).

[30/] Fortunately, even when the Commission partially lifted the freeze effective April 20, 1988, the dual requirement that every new application specify a site "which is farther than 50 miles from any proposed location of MMDS applications pending on April 19, 1988 or MMDS licensed facility locations" and that the proposed site "be farther than 15 miles from the boundary of a statistical area for which there are MMDS applications pending on April 19, 1988" precluded the filing of MDS applications that intentionally or incidentally would have precluded wireless system development efforts. *See* "Common Carrier Bureau Opens Filing Period For Multichannel Multipoint Distribution Service Applications," *Public Notice*, 3 FCC Rcd 2661 (1988). As a result, the partial lifting of the freeze between 1988 and 1992 did not jeopardize the ability of wireless cable operators to maximize service to the public.

that propose new stations so closely-spaced to previously proposed stations that (either intentionally or coincidentally) they will cause harmful electrical interference to areas already served by a neighboring system. This fear is not based on paranoia, it is based on history.

When the filing mills were swamping the Commission with MDS applications between 1988 and 1992, WCAI understands that many applications proposed closely-spaced stations that, while technically complying with the interference protection requirements of Section 21.902, were returned because they failed to comply with the mileage separation standards set out in the *Public Notice* partially lifting the 1983 moratorium on applications for new MDS stations.[31/] Moreover, prior to instituting its own freeze on applications for new ITFS stations in 1993,[32/] the Distribution Services Branch was inundated with applications proposing facilities spaced quite close to existing or previously proposed ITFS stations leased to wireless cable operators. The mileage restrictions on new MDS applications that applied during the 1988-1992 filing period never applied with respect to ITFS stations; it was only the inadequate PSA definition that protected wireless cable subscribers from harmful electrical interference caused by new ITFS facilities. As the comments filed by wireless cable operators in PR Docket No. 92-80 make clear, many of these closely-spaced ITFS applications were

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[31/] *See supra* at note 30.

[32/] *Notice of Proposed Rulemaking* in MM Docket 93-24, 8 FCC Rcd 1275 (1993).

sponsored by entities that appeared to be seeking greenmail by frustrating the development of wireless cable in adjacent markets.[33/]

Whether these applications were filed with the intent of frustrating neighboring wireless cable systems, or whether that is merely an unintended consequence, is largely irrelevant. What matters is that those closely-spaced ITFS stations (most of which are unconstructed):[34/] (i) are already preventing wireless cable operators from completing co-

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[33/]*See, e.g.*, Comments of Emerald Enterprises, Inc., PR Docket No. 92-80, at 12 (filed June 29, 1992)("The Commission is well aware of the modus operandi of firms such as Rural Vision, which enter lease agreements with hapless local schools only to hold critical channels for a king's ransom, utterly beyond the reach of wireless cable operators unless they accede to absurd lease demands"); Comments of Fletcher, Heald & Hildreth, PR Docket No. 92-80, at 9 (filed June 29, 1992)("Anyone who has substantial experience in the wireless cable industry knows of RuralVision, its abuses of process in ITFS applications filed by its proxy school systems, and other ITFS speculators who make filings to extort money from serious wireless cable operators"); Comments of WJB-TV Ft. Pierce Limited Partnership, PR Docket No. 92-80, at 10 (filed June 29, 1992)("WJB is mindful of the large number of Petitions to Deny that have been filed against [one] particular entity, many of which allege improper, dishonest, and even illegal conduct."); Comments of Wireless Cable Ass'n Int'l, PR Docket No. 92-80, at 35-43 (filed June 29, 1992)[hereinafter cited as "WCAI PR Docket No. 92-80 Comments"]. *See also* WCAI ITFS Filing Window Comments, at 3-5.

[34/]In its comments in MM Docket No. 93-24, WCAI has called for the Commission to take a harder look at the requests for additional time to construct ITFS facilities that are inundating the staff. As WCAI explained:

> extensions of construction deadlines have also become the speculator's best friend. Too often, speculators have entered into excess capacity lease agreements with local educators, yet have no intention of constructing facilities and operating a wireless cable system. Rather, these speculators intend either to assign these leases to legitimate wireless cable system developers at a profit or to greenmail nearby cable systems by threatening to cause harmful electrical interference. History has shown that when speculators are unable to profit within the initial construction period afforded, requests for extension of time are filed routinely and, at least to date, granted almost immediately after filing.

(continued...)

location projects because they are too close to be protected from harmful electrical interference; and (ii) could cause harmful electrical interference to wireless cable subscribers. If the Commission similarly permits new MDS applications to be submitted for areas unduly close to the existing facilities, wireless cable operators will have to choose between the Scylla of accepting destructive electrical interference at subscribers' residences and the Charybdis of buying out those who applied for the closely-spaced stations.

Thus, it is not surprising that throughout General Docket No. 90-54, PR Docket No. 92-80 and MM Docket No. 93-24, a major thrust of WCAI's efforts has been to secure a revision of the PSA definition set forth in Section 21.902(d) of the Rules for protecting systems transmitting analog NTSC signals.[35/] Proper resolution of the PSA definition issue is critical to deterring strike applications, to maximizing the number of consumers who can receive wireless cable service, and to preserving for wireless cable operators the critical mass of potential subscribers essential to attract financing.

[34/](...continued)

> With the value of excess capacity leases for unbuilt ITFS stations being confirmed by the recent sale of RuralVision for $45 million dollars, the Commission can anticipate that these speculators will continue to use requests for extension of time to warehouse ITFS spectrum for as long as possible.

WCAI ITFS Filing Window Comments, at 27-28 (filed Aug. 29, 1994).

[35/]*See supra* note 27. In its *Report and Order* in PR Docket No. 92-80, the Commission deferred consideration of the PSA definition to the reconsideration phase of General Docket No. 90-54. *See Amendment of Parts 1, 2 and 21 of the Commission's Rules Governing Use of the Frequencies in the 2.1 and 2.5 GHz Bands,* 8 FCC Rcd 1444, 1447-48 n. 40 (1993).

In defining the boundaries for the PSA, the Commission's policy goal has been to set limits coterminous with "that area in which reliable service is available to the majority of receiver locations within the area."[36/] Make no mistake -- WCAI fully agrees with that approach to defining the PSA. Indeed, the focus of WCAI's campaign for a redefined PSA has been on the dramatic technological developments in reception equipment technology that have occurred since the current PSA definition was first proposed a decade and a half ago. As compared with the situation in 1980, far less signal is necessary at the antenna input to produce an acceptable wireless cable picture, effectively increasing the size of the area in which reliable service can be provided.[37/] And, wireless cable systems are generally operating at significantly greater power levels than was the case in the early 1980s, further increasing the size of the serviceable area. As a result of these technological developments: (i) wireless cable is now able to serve a greater total proportion of population than before; and (ii) individual wireless cable systems are able to serve a greater geographic area, providing the larger subscriber base that reduces the cost of service to individual subscribers and is attractive to investors.

[36/] *Amendment of Parts 21, 74 and 94 of the Commission's Rules and Regulations with Regard to Technical Requirements Applicable to the Multipoint Distribution Service, the Instructional Television Fixed Service and the Private Operational Fixed Microwave Service (OFS)*, 98 F.C.C.2d 68, 87 (1984)[hereinafter cited as "*80-113 FR&O*"].

[37/] As a result of improvements in the state of the art, wireless cable downconverters now introduce far less noise than they did in 1980. "The lower the system noise floor, the easier it is for the receiver to hear weak signals." Bostick and Bostick, "Factors Affecting The Range Of The System," *Wireless Broadcasting*, at 21, 22 (Aug. 1994). Moreover, inexpensive signal preamplifiers have been developed for installation at receive sites.

To quantify the extent to which wireless cable operators are capable of serving subscribers beyond their PSA, WCAI presented the Commission in General Docket No. 90-54 with the results of an extensive survey of operating wireless cable systems.[38/] The results illustrate that the current PSA definition has become obsolete. Fully 59 percent of the systems responding to WCAI's survey indicated that more than 50 percent of their current subscribers are located more than 15 miles from the transmission headend. The median is that 57.5 percent of wireless subscribers reside outside the PSA of the station serving them. Clearly, any relationship between the current PSA definition and the area in which wireless cable systems provide reliable service is long gone. And therein lies the problem -- subscribers residing outside the PSA can readily be held hostage by the unscrupulous.

The current PSA boundary was first proposed by the Commission in a *Notice of Inquiry and Proposed Rulemaking* adopted on March 19, 1980 in General Docket No. 80-113.[39/] As is explained in detail in that document, the 15-mile PSA radius for omnidirectional antennas was derived by the Commission first by ascertaining the faded signal to noise ("S/N") ratio at a television set's antenna terminals that is required to produce an adequate picture and then by calculating that a "typical" MDS station operating with 10 watts

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[38/]WCAI Petition for Partial Reconsideration, at 5.

[39/]*See Amendment of Parts 21, 74 and 94 of the Commission's Rules and Regulations with Regard to Technical Requirements Applicable to the Multipoint Distribution Service, the Instructional Television Fixed Service and the Private Operational Fixed Microwave Service (OFS)*, 45 Fed. Reg. 29,350 (May 2, 1980).